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EXAMINER

ANWAR, MOHAMMAD S

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/565,859	Applicant(s) FUNABIKI ET AL.	
	Examiner MOHAMMAD ANWAR	Art Unit 2463	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 October 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 30-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 30-46 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/20/10 has been entered.

Response to Arguments

Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

1. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein

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were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1-5, 7, 14-20 and 34-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takusagawa et al. (U. S. PGPub. No. 2003/0225892 A1) in view of Dommety (U.S. Patent No. 7,512,088 B1), Funato et al. (U.S. PGPub. No. 2003/0087646) and Nakatsugawa et al. (U.S. Patent No. 7,277,708).

For claims 1, 7, 16 and 34, Takusagawa disclose source access router apparatus and a destination access router apparatus (see Figure 1), comprising: determining, by the mobile communication apparatus, whether the source access router apparatus connected with the mobile communication apparatus complies with a Fast Mobile IP in which the source access router apparatus is configured to send a buffer notification to the destination access router apparatus for buffering data addressed to the mobile communication apparatus, based on information indicating either compliance or non-compliance with the Fast Mobile IP in a router advertisement message transmitted by the source access router apparatus (see para. 53, messages transferred between routers; Figure 1 (8) buffer; para. 90); selectively operating, by the mobile communication apparatus, between or among a plurality of operating modes based on at least the determined compliance of the source access router apparatus with the Fast Mobile IP (See Figure 12, buffering packets corresponds to fast mobile IP compliance

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and para. 54 where mobile nodes communicates with the home agent for new router address refers to non-compliance; para. 145, router management list identifies the type of routers: para. 189 handover process applies to mobile IP and mobile ipv6); in a first one of the operating modes, when the mobile communication apparatus determines that the source access router apparatus does not comply with the fast mobile IP (see para.54, does not comply with Fast mobile IP and the access router information is handled by home agent) ; the mobile communication apparatus requests information to a home agent apparatus on the destination access router apparatus, the home agent apparatus responds to the request, providing information on the destination access router apparatus to the mobile communication apparatus (see para. 54, router address is assigned by CN or home agent), and the mobile communication apparatus instructs the home agent apparatus to forward data addressed to the mobile communication apparatus to the destination access router apparatus (see para. 120). Takusagawa et al. disclose all the subject matter but fails to mention explicitly the mobile communication apparatus requests information to a home agent apparatus on the destination access router apparatus, the home agent apparatus responds to the request, providing information on the destination access router apparatus to the mobile communication apparatus. However, Dommety from a similar field of endeavor disclose the mobile communication apparatus requests information to a home agent apparatus on the destination access router apparatus, the home agent apparatus responds to the request, providing information on the destination access router apparatus to the mobile communication apparatus (see column 4 lines 28-35, a mobile node receiving the

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address through home agent). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Dommetry addressing scheme into Takusagawa et al. IP scheme. The method can be implemented in a wireless network. The motivation of doing this is to expedite routing data packets (see column 1 lines 19-23). Takusagawa et al. and Dommetry disclose all the subject matter but fails to mention in a second one of the operating modes, the mobile communication apparatus sends information to the source access router apparatus for implementing a Fast Mobile IP procedure. However, Funato et al. from a similar field of endeavor disclose in a second one of the operating modes, the mobile communication apparatus sends information to the source access router apparatus for implementing a Fast Mobile IP procedure (see paragraph 59-61). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Funato et al. mobile IP implementation scheme into Takusagawa et al. and Dommetry. Fast mobile IP scheme. The method can be implemented through messaging. The motivation of doing this is to discover mobile routers (see paragraph 2). Takusagawa et al., Dommetry and Funato et al. disclose all the subject matter but fails to mention explicitly receiving a router advertisement message from a router in regards to compliance/non-compliance. However, Nakatsugawa et al. disclose receiving a router advertisement message from a router in regards to compliance/non-compliance (see column 7 lines 29-33, column 13 lines 26-29, flag denotes the type of router). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Nakatsugawa et al. router advertisement scheme into Takusagawa et al., Dommetry and Funato transmission

scheme. The method can be implemented in a router. The motivation of doing this is to achieve handover of high reliability and high efficiency (see column 4 lines 29-32).

For claims 14 and 15, Takusagawa et al. discloses comprising a network having plural sub-networks (see Figure 1), access router apparatus connected to the sub-networks (see Figure 1, old AR, new AR) a mobile communication apparatus (see Figure 1, MN) making packet-communications with the network through the access router apparatus, in which the access router apparatus which comply with a Fast Mobile IP are intermixed with those which do not comply with the Fast Mobile IP (see Figure 1, MN), , wherein the mobile communication apparatus has a function of determining whether the source access router apparatus complies with the Fast Mobile IP in which the source access router apparatus is configured to send a buffer notification to a destination access router apparatus for buffering data addressed to the mobile communication apparatus, based on information indicating either compliance or non-compliance with the Fast Mobile IP in a router advertisement message transmitted by the source access router (see Figure 1 (8) buffer; para. 90), and selectively operates between or among a plurality of operating modes based on at least the determined compliance of a source access router apparatus with the Fast Mobile IP apparatus (See Figure 12, buffering packets corresponds to fast mobile IP compliance and para. 54 where mobile nodes communicates with the home agent for new router address); a home agent apparatus connected to the network which implements mobile management of the mobile communication apparatus moving between the sub-networks (see para. 43); and at least one correspondent node connected to the

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network, which makes communication with the mobile communication apparatus (see para. 120); and in a second one of the operating modes, if the mobile communication apparatus determines that the source access router apparatus does not comply with the Fast Mobile IP, the mobile communication apparatus requests information to the home agent apparatus for information on the destination access router apparatus, the home agent apparatus provides the information on the destination access router apparatus to the mobile communication apparatus in response to the request (see para.54, does not comply with Fast mobile IP and the access router information is handled by home agent), and the mobile communication apparatus instructs the home agent apparatus to forward data addressed to the mobile communication apparatus to the movement destination access router apparatus (see para. 120). Takusagawa et al. disclose all the subject matter but fails to mention explicitly the mobile communication apparatus requests information to a home agent apparatus on the destination access router apparatus, the home agent apparatus responds to the request, providing information on the destination access router apparatus to the mobile communication apparatus. However, Dommety from a similar field of endeavor disclose the mobile communication apparatus requests information to a home agent apparatus on the destination access router apparatus, the home agent apparatus responds to the request, providing information on the destination access router apparatus to the mobile communication apparatus (see column 4 lines 28-35, a mobile node receiving the address through home agent). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Dommety addressing scheme into Takusagawa

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et al. IP scheme. The method can be implemented in a wireless network. The motivation of doing this is to expedite routing data packets (see column 1 lines 19-23). Takusagawa et al. and Dommety disclose all the subject matter but fails to mention in a second one of the operating modes, the mobile communication apparatus sends information to the source access router apparatus for implementing a Fast Mobile IP procedure. However, Funato et al. from a similar field of endeavor disclose in a second one of the operating modes, the mobile communication apparatus sends information to the source access router apparatus for implementing a Fast Mobile IP procedure (see paragraph 59-61). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Funato et al. mobile IP implementation scheme into Takusagawa et al. and Dommety fast mobile IP scheme. The method can be implemented through messaging. The motivation of doing this is to discover mobile routers (see paragraph 2). Takusagawa et al., Dommety and Funato et al. disclose all the subject matter but fails to mention explicitly receiving a router advertisement message from a router in regards to compliance/non-compliance. However, Nakatsugawa et al. disclose receiving a router advertisement message from a router in regards to compliance/non-compliance (see column 7 lines 29-33, column 13 lines 26-29, flag denotes the type of router). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Nakatsugawa et al. router advertisement scheme into Takusagawa et al., Dommety and Funato transmission scheme. The method can be implemented in a router. The motivation of doing this is to achieve handover of high reliability and high efficiency (see column 4 lines 29-32).

For claims 18 & 19 & 20, Takusagawa et al. disclose wherein if the Fast Mobile IP compliance determining part determines that access router apparatus does not comply with Fast Mobile IP (see para.54, does not comply with Fast mobile IP and the access router information is handled by home agent), the Fast Mobile IP control part gives identifying information of the destination access router apparatus to the home agent apparatus or an access router information server apparatus and controls the mobile IP/Fast Mobile IP processing part so as to request information on the access router (see para. 54, router address is assigned by CN or home agent).

For claims 35-46, Taksugawa et al., Dommety and Funato disclose all the subject matter but fails to mention wherein the information indicating either compliance or noncompliance with the Fast Mobile IP is a value of a code field in a handover capability option included in the router advertisement message; wherein the mobile communication apparatus determines that the source access router apparatus complies with the Fast Mobile IP when the value of the code field is zero. However, Nakatsugawa et al. from a similar field of endeavor disclose wherein the information indicating either compliance or noncompliance with the Fast Mobile IP is a value of a code field in a handover capability option included in the router advertisement message; wherein the mobile communication apparatus determines that the source access router apparatus complies with the Fast Mobile IP when the value of the code field is zero (see Figure 2). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Nakatsugawa et al. router advertisement into Taksugawa et al.,

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Dommety and Funato mobile IP scheme. The method can be implemented in a router.

The motivation of doing this is to have a fast handover.

4. Claims 2-5 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takusagawa et al. in view of Dommety, Funato et al. and Nakatsugawa et al. as applied to claim 1 above, and further in view of Kim (U.S. Patent No. 7,116,654 B2).

For claim 2, Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. disclose all the subject matter but fails to mention wherein the home agent apparatus stores information on access router apparatus and searches and gives information on the destination access router apparatus in accordance with the request by the mobile communication apparatus. However, Kim from a similar field of endeavor discloses wherein the home agent apparatus stores information on access router apparatus (see column 2 lines 51-55) and searches and gives information on the destination access router apparatus in accordance with the request by the mobile communication apparatus (see column 2 lines 55-60). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Kim storing scheme into Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. mobile IP scheme. The method can be implemented in a home agent. The motivation of doing this is to increase performance in wireless link (see column 2 lines 11-14).

For claim 3, Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. disclose all the subject matter but fails to mention wherein the home agent apparatus

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makes inquiries about information on the destination access router apparatus to an access router information server apparatus storing information on access router apparatus, in accordance with the request by the mobile communication apparatus, and gives the information to the mobile communication apparatus. However, Kim from a similar field of endeavor discloses wherein the home agent apparatus makes inquiries about information on the destination access router apparatus to an access router information server apparatus storing information on access router apparatus, in accordance with the request by the mobile communication apparatus, and gives the information to the mobile communication apparatus (see column 2 lines 53-60). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Kim storing scheme into Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. mobile IP scheme. The method can be implemented in a home agent. The motivation of doing this is to increase performance in wireless link (see column 2 lines 11-14).

For claims 4 and 5, Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. disclose all the subject matter but fails to mention wherein the mobile communication apparatus notifies the home agent apparatus of an identifier tag of the destination access router apparatus, and the home agent apparatus searches or inquires about information on the destination access router apparatus based on the identifier tag; wherein the identifier tag of the destination access router is either a lower layer address or a cell station ID. However, Kim from a similar field of endeavor disclose wherein the mobile communication apparatus notifies the home agent apparatus of an

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identifier tag of the destination access router apparatus, and the home agent apparatus searches or inquires about information on the destination access router apparatus based on the identifier tag (see column 8 lines 10-17); wherein the identifier tag of the destination access router is either a lower layer address or a cell station ID (see column 8 lines 14-15). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Kim storing scheme into Takusagawa et al., Dommetry, Funato et al. and Nakatsugawa et al. mobile IP scheme. The method can be implemented in a home agent. The motivation of doing this is to increase performance in wireless link (see column 2 lines 11-14).

For claim 17, Takusagawa et al., Dommetry, Funato et al. and Nakatsugawa et al. disclose wherein information on the access router apparatus is acquired from the home agent apparatus which manages movements of the mobile communication apparatus between sub-networks or from the access router apparatus. However, Kim from a similar field of endeavor disclose wherein information on the access router apparatus is acquired from the home agent apparatus which manages movements of the mobile communication apparatus between sub-networks or from the access router apparatus (see column 2 lines 51-55). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Kim storing scheme into Takusagawa et al., Dommetry, Funato et al. and Nakatsugawa et al. mobile IP scheme. The method can be implemented in a home agent. The motivation of doing this is to increase performance in wireless link (see column 2 lines 11-14).

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5. Claims 6, 8-10 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. as applied to claims 1 and 16 above, and further in view of Leung (U.S. Patent No. 6,636,498 B1).

For claim 6, Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. disclose all the subject matter but fails to mention a step in which when the home agent apparatus could not acquire information on the destination access router apparatus, the home agent apparatus notifies the mobile communication apparatus accordingly. However, Leung from a similar field of endeavor discloses a step in which when the home agent apparatus could not acquire information on the access router apparatus (see column 15 lines 25-27), the home agent apparatus notifies the mobile communication apparatus accordingly (see column 15 lines 36-38). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung acquiring scheme into Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to acquire and notify router information in a timely manner.

For claim 8, Takusagawa et al. disclose when the mobile communication apparatus determines that the source access router apparatus does not comply with the Fast Mobile IP (See Figure 12, buffering packets corresponds to fast mobile IP compliance and para. 54 where mobile nodes communicates with the home agent for new router address refers to non-compliance), and the destination access router

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apparatus complies with Fast Mobile IP (see Figure 1, buffer); the mobile communication apparatus instructs the home agent apparatus to forward data addressed to the mobile communication apparatus to the destination access router apparatus (see para. 120). Takusagawa et al., Funato et al., Dommety and Nakatsugawa et al. disclose all the subject matter but fails to mention establishing by the home agent apparatus a tunnel between the home agent and the destination access router apparatus and notifying the establishment thereof apparatus to the mobile communication apparatus; receiving by the destination access router apparatus via the tunnel data addressed to the mobile communication apparatus and forwarding the data to the mobile communication apparatus. However, Leung from a similar field of endeavor discloses establishing the home agent apparatus a tunnel between the home agent apparatus and the destination access router apparatus and notifying the establishment thereof to the mobile communication apparatus (see column 15 lines 36-38); receiving by the destination access router apparatus via the tunnel data addressed to the mobile communication apparatus and forwards the data to the mobile communication apparatus (see column 15 lines 38-47). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung tunneling scheme into Takusagawa et al., Funato et al., Dommety and Nakatsugawa et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to expedite data transfer.

For claim 9, Takusagawa et al. disclose when the mobile communication apparatus determines that the source access router apparatus complies with the Fast

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Mobile IP (See Figure 12, buffering packets corresponds to fast mobile IP compliance and para. 54 where mobile nodes communicates with the home agent for new router address refers to non-compliance) and the destination access router apparatus does not comply with Fast Mobile IP (See Figure 12, buffering packets corresponds to fast mobile IP compliance and para. 54 where mobile nodes communicates with the home agent for new router address refers to non-compliance); instructing by the mobile communication apparatus, source access router apparatus to forward data addressed to the mobile communication apparatus to the home agent apparatus (see para. 54).

Takusagawa et al., Funato et al., Dommety and Nakatsugawa et al. disclose all the subject matter but fails to mention establishing by the access router apparatus a second tunnel between the source access router apparatus and the home agent apparatus and notifying the establishment thereof to the mobile communication apparatus; and forwarding by the home agent apparatus data addressed to the mobile communication apparatus received via the second tunnel to the mobile communication apparatus.

However, Leung from a similar field of endeavor discloses establishing by the access router apparatus a second tunnel between the source access router apparatus and the home agent apparatus and notifying the establishment thereof to the mobile communication apparatus (see column 15 lines 36-38); and forwarding by the home agent apparatus data addressed to the mobile communication apparatus received via the second tunnel to the mobile communication apparatus (see column 15 lines 38-47).

Thus it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung tunneling scheme into Takusagawa et al., Dommety, Funato et

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al. and Nakatsugawa et al. mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to expedite routing packet from one region to another.

For claims 10 & 21, Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. disclose all the subject matter but fails to mention wherein an instruction given by the mobile communication apparatus with respect to the source access router apparatus is one in which an address of the home agent apparatus is written in a new care-of address field of a fast binding update message according to a Fast Mobile IP procedure. However, Leung from a similar field of endeavor discloses wherein the instruction given by the mobile communication apparatus with respect to the pre-movement source access router apparatus is one in which the address of the home agent apparatus is written in the new care-of address field of a fast binding update message according to a Fast Mobile IP procedure (see column 5 lines 49-53). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung binding scheme into Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. mobile IP routing scheme. The method can be implemented in the hardware and software. The motivation of doing this is to provide a proper addressing scheme for routing packet from one region to another.

6. Claims 11, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takusagawa et al., Dommety, Funato et al., Nakatsugawa et al. and

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Leung as applied to claims 1, 8, 9 above, and further in view of Shimizu et al. (U.S. PGPub. No. 2002/0045450 A1).

For claims 11, 30 and 31, Takusagawa et al., Dommety, Funato et al., Nakatsugawa and Leung disclose all the subject matter but fails to mention starting, by the home agent apparatus, buffering in a case that buffering is possible when the home agent apparatus receives an instruction from the source access router apparatus for buffering transmission data addressed to the mobile communication apparatus. However, Shimizu et al. from a similar field of endeavor disclose starting, by the home agent apparatus, buffering in a case that buffering is possible when the home agent apparatus receives an instruction from the source access router apparatus for buffering transmission data addressed to the mobile communication apparatus (see Figure 11, para. 53). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Shimizu et al. buffering scheme into Takusagawa et al., Dommety, Funato et al., Nakatsugawa et al. and Leung handover scheme. The method can be implemented in a home agent device. The motivation of doing this is to avoid packet loss.

7. Claims 12, 13 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takusagawa et al., in view of Dommety, Funato et al., Nakatsugawa et al., Leung and Shimizu et al. as applied to claims 1, 8, 9, 11 and 30 above, and further in view of Okajima et al. (U.S. PGPub. No. 2004/0114554).

For claim 12, Takusagawa et al., Dommety, Funato et al., Nakatsugawa et al., Leung and Shimizu et al. disclose all the subject matter but fails to mention notifying by the home agent apparatus to start buffering to the source access router apparatus. However, Okajima et al. from a similar field of endeavor discloses notifying by the home agent apparatus to start buffering to the source access router apparatus (see paragraph 19 lines 26--29). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Okajima et al. buffering scheme into Takusagawa et al., Dommety, Funato et al., Nakatsugawa et al., Leung and Shimizu et al. mobile IP routing, compliance and binding scheme. The method can be implemented in the hardware. The motivation of doing this is to avoid packet loss.

For claim 13, Takusagawa et al., Dommety, Funato et al., Nakatsugawa et al., Leung and Shimizu et al. disclose all the subject matter but fails to mention wherein in a case that the buffering is impossible, notifying the home agent apparatus, the source access router apparatus that buffering cannot be executed. However Okajima et al. from a similar field of endeavor discloses wherein in a case that the buffering is impossible (paragraph 19 lines 10-20), notifying the home agent apparatus, the source access router apparatus that buffering cannot be executed (paragraph 19 line 3, paragraph 214 lines 8-21). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Okajima et al. buffering scheme into Takusagawa et al., Dommety, Funato et al., Nakatsugawa et al., Leung and Shimizu et al. mobile IP routing, compliance and binding scheme. The method can be implemented in the hardware. The motivation of doing this is to avoid packet loss.

For claim 32, Takusagawa et al., Dommety, Funato et al., Okajimi et al. and Shimizu et al. disclose all the subject matter but fails to mention wherein a tunnel is established in the data transmission between the home agent apparatus and the buffer node or the data transmission between the buffer node and the mobile communication apparatus or both. However, Leung from a similar field of endeavor discloses wherein a tunnel is established in the data transmission between the home agent apparatus and the buffer node or the data transmission between the buffer node and the mobile communication apparatus or both (see column 15 lines 38-47). Thus, it would have been obvious to one ordinary skill in the art at the time invention was made to include Leung tunneling scheme into Takusagawa et al., Dommety, Funato et al., Okajimi et al. and Shimizu et al. Mobile IP routing and compliance scheme. The method can be implemented in the hardware and software. The motivation of doing this is to expedite data transfer.

8. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takusagawa et al. (U. S. PGPub. No. 2003/0225892 A1) in view of Dommety (U.S. Patent No. 7,512,088 B1), Funato et al. (U.S. PGPub. No. 2003/0087646) and Nakatsugawa et al. as applied to claim 14 above, and further in view of Shimizu et al. (U.S. PGPub. No. 2002/0045450 A1).

For claim 33, Takusagawa et al., Dommety, Funato et al. and Nakatsugawa et al. disclose all the subject matter but fails to mention a buffer node for temporarily storing data,

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wherein the home agent apparatus instructs the temporary storing of data transmitted to the buffer node and the transmission of that data to the designated mobile communication apparatus, and the buffering node stores received data and later forwards the data to a designated mobile communication apparatus. However, Shimizu et al. from a similar field of endeavor disclose a buffer node for temporarily storing data, wherein the home agent apparatus instructs the temporary storing of data transmitted to the buffer node and the transmission of that data to the designated mobile communication apparatus, and the buffering node stores received data and later forwards the data to a designated mobile communication apparatus see Figure 11, para. 53). Thus, it would have been obvious to one ordinary skill in the art at the time of invention was made to include Shimizu et al. buffering scheme into Takusagawa et al., Dommety , Funato et al., Nakatsugawa et al. and Leung handover scheme. The method can be implemented in a home agent device. The motivation of doing this is to avoid packet loss.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHAMMAD ANWAR whose telephone number is (571)270-5641. The examiner can normally be reached on Monday-Thursday, 9am-4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derrick W. Ferris can be reached on 571-272-3123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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